

AMENDMENTS TO THE CLAIMS

The following listing of the claims replaces all prior versions and listings of the claims in relation to the present patent application.

Listing of Claims

1. (original) A radio module for an electrical device, comprising:

a radio transceiver;

an antenna electrically coupled to the radio transceiver; and

a shield disposed relative to the antenna to isolate the antenna from loading effects of components of the electrical device.
2. (original) The radio module, as set forth in claim 1, wherein the radio module is adapted to be secured to a side of the electrical device.
3. (original) The radio module, as set forth in claim 1, comprising a printed circuit board, wherein the antenna is disposed on the printed circuit board.
4. (original) The radio module, as set forth in claim 3, wherein the shield comprises a metal plate coupled to the printed circuit board.
5. (original) The radio module, as set forth in claim 4, wherein the shield is disposed relative to the transceiver to isolate the transceiver from electromagnetic interference from electrical components within the electrical device.
6. (original) The radio module, as set forth in claim 4, wherein the radio module further comprises a cover disposed over the antenna and adapted to extend through an

opening in the side of the electrical device, the cover comprising a material that is generally transparent to radio signals.

7. (original) The radio module, as set forth in claim 1, wherein the shield comprises a housing disposed around the antenna, the housing having a portion generally transparent to radio signals from the antenna.

8. (original) The radio module, as set forth in claim 7, wherein the housing is disposed around the transceiver.

9. (original) The radio module, as set forth in claim 7, wherein the housing comprises a conductive metal.

10. (original) The radio module, as set forth in claim 7, wherein the housing comprises a polymeric material having a conductive coating.

11. (original) The radio module, as set forth in claim 7, wherein the housing comprises a periodic band-gap material.

12. (original) A radio module, comprising:

a printed circuit board;

an antenna disposed on the printed circuit board; and

an electromagnetic shield extending from the printed circuit board around the antenna.

13. (original) The radio module, as set forth in claim 12, comprising a radio transceiver disposed on the printed circuit board and electrically coupled to the antenna.

14. (original) The radio module, as set forth in claim 11, wherein the radio module is adapted to be coupled to an enclosure and, wherein, the electromagnetic shield is adapted to extend from the printed circuit board to the enclosure.

15. (original) The radio module, as set forth in claim 14, wherein the shield comprises a portion generally transparent to radio signals produced by the radio module, the portion being disposed in facing relationship with the antenna.

16. (original) The radio module, as set forth in claim 14, wherein the antenna is disposed within the enclosure.

17. (original) The radio module, as set forth in claim 16, wherein the radio module further comprises a cover disposed over the antenna, the cover being generally transparent to radio signals at the operating frequency of the radio module.

18. (original) The radio module, as set forth in claim 12, wherein the shield comprises a metal plate disposed on the printed circuit board.

19. (original) The radio module, as set forth in claim 18, wherein the metal plate is disposed on the side of the printed circuit board opposite the antenna.

20. (currently amended) A system, comprising:

a plurality of electrical devices; and

a plurality of radio modules disposed within the plurality of electrical devices to enable the plurality of electrical devices to communicate wirelessly, wherein each of the plurality of radio modules comprises an antenna disposed within the electrical device and adapted to provide a maximum output at a defined load, and a member disposed relative to the antenna to establish the defined load on the antenna independent of components disposed within the electrical device in which the antenna is disposed.

21. (original) The system, as set forth in claim 20, wherein at least one member decouples the antenna electromagnetically from the components within the electrical device in which the antenna is disposed.

22. (original) The system, as set forth in claim 20, wherein at least one member comprises a conductive metal plate disposed between the antenna and the components within the electrical device in which the antenna is disposed.

23. (original) The system, as set forth in claim 20, wherein at least one radio module comprises a radio transceiver coupled to the antenna.

24. (original) The system, as set forth in claim 23, wherein at least one member is disposed around the radio transceiver.

25. (cancelled)

26. (original) The system, as set forth in claim 20, wherein at least one antenna is disposed on a printed circuit board securable to an enclosure

27. (original) A method of manufacturing a radio module for use within an electrical device, comprising:

tuning an antenna to produce a maximum output at a defined load; and

disposing a shield relative to the antenna to establish the defined load on the antenna independent of influences external to the antenna within the electrical device.

28. (original) The method, as set forth in claim 27, wherein disposing a shield comprises disposing an antenna housing around the perimeter of the antenna.

29. (original) The method, as set forth in claim 27, wherein disposing a shield comprises disposing the antenna on a printed circuit board and disposing a conductive plate on the printed circuit board opposite the antenna.